

IN THE CLAIMS:

Please amend claims 538-541, 543, 544, and 546 (with the changes as shown in the attachment) to read as follows:

538. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate;

a tip for insertion into the cervical vertebral body;

a shaft between said tip and said head, said shaft having a mid-longitudinal axis and a root diameter at transverse cross sections along the mid-longitudinal axis, said shaft having a first shaft portion proximate said tip and a second shaft portion proximate said head, the root diameter of said first shaft portion being less than the root diameter of said second shaft portion; and

a thread along at least a portion of said shaft adapted to engage the cervical vertebral body, said thread having an outer diameter that is generally uniform along at least a substantial portion of each of said first and second shaft portions, said thread having a pitch, said pitch along at least a portion of the length of said first shaft portion being substantially the same as said pitch along at least a portion of the length of said second shaft portion, said thread having opposed side faces angled relative to each other to form a base at said root diameter of said shaft, said base being smaller proximate said second shaft

portion than proximate said first shaft portion, said screw being made of a material suitable for implantation into the human skeleton.

32
539. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate;

a tip for insertion into the cervical vertebral body;

a shaft between said tip and said head, said shaft having a mid-longitudinal axis and a root diameter at transverse cross sections along the mid-longitudinal axis, said shaft having a first shaft portion proximate said tip and a second shaft portion proximate said head, the root diameter of said first shaft portion being less than the root diameter of said second shaft portion; and

a thread along at least a portion of said shaft adapted to engage the cervical vertebral body, said thread having an outer diameter that is generally uniform along at least a substantial portion of each of said first and second shaft portions, said thread having a profile with opposed side faces and a crest, said crest along at least a portion of the length of said first shaft portion being substantially uniform ^{to said crest} along at least a portion of the length of said second shaft portion proximate said head, said screw being made of a material suitable for implantation into the human skeleton.

633 ✓
540. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate;

a tip for insertion into the cervical vertebral body;

C | a shaft between said tip and said head, said shaft having a mid-longitudinal axis and a root diameter at transverse cross sections along the mid-longitudinal axis, said shaft having a first shaft portion proximate said tip and a second shaft portion proximate said head, the root diameter of said first shaft portion being less than the root diameter of said second shaft portion; and

a thread along at least a portion of said shaft adapted to engage the cervical vertebral body, said thread having an outer diameter that is generally uniform along at least a substantial portion of each of said first and second shaft portions, said thread having opposed side faces intersecting at an angle to form a crest along at least a portion of the length of said second shaft portion proximate said head, said thread having a pitch, said pitch along at least a portion of the length of said first shaft portion being substantially the same as said pitch along at least a portion of the length of said second shaft portion, said screw being made of a material suitable for implantation into the human skeleton.

GAH ✓
541. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at

least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate;

a tip for insertion into the cervical vertebral body;

a shaft between said tip and said head, said shaft having a mid-longitudinal axis and a root diameter at transverse cross sections along the mid-longitudinal axis, said root diameter of said shaft being curved along at least a portion of the length of said shaft in a direction between said head and said tip along the mid-longitudinal axis of said shaft, said shaft having a first shaft portion proximate said tip and a second shaft portion proximate said head, the root diameter of said first shaft portion being less than the root diameter of said second shaft portion; and

a thread along at least a portion of said shaft adapted to engage the cervical vertebral body, said thread having an outer diameter that is generally uniform along at least a substantial portion of each of said first and second shaft portions, said screw being made of a material suitable for implantation into the human skeleton.

543. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one

bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a shaft having a leading end configured to pass at least in part through said plate and adapted for insertion into the bone of a cervical vertebral body and a trailing end opposite said leading end, said shaft having a mid-longitudinal axis and a root diameter at transverse cross sections along the mid-longitudinal axis; and

C2
a thread having a length along at least a portion of said shaft, said thread adapted to engage the bone of the vertebral body, said thread having opposed side faces being angled relative to each other to form an apex of said thread, said side faces forming an included angle in the range of 11 degrees to 30 degrees along said thread length, said screw being made of a material suitable for human implantation.

155
544. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a shaft having a leading end configured to pass at least in part through said plate and adapted for insertion into the bone of a cervical vertebral body, a mid-longitudinal axis, and a trailing end opposite said leading end, said shaft having a root diameter at transverse cross sections along the mid-longitudinal axis; and

CZ
a thread along at least a portion of said shaft, said thread adapted to engage the bone of the cervical vertebral body, said thread having opposed side faces, said side faces being angled relative to each other to form a base at said root diameter of said shaft and a crest opposite said base, said side faces having at least three different base thicknesses therebetween in the range of 0.25 mm to 0.60 mm at said base, said screw being made of a material suitable for human implantation.

2/15/03
546. A plating system comprising:

U3
an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a tip;

a head having a length in the range of 1 mm to 3 mm and a diameter in the range of 3.8 mm to 7.0 mm;

a shaft having a maximum root diameter in the range of 3.6 mm to 5.2 mm, said root diameter of said shaft being tapered from proximately below said head along the longitudinal axis of said shaft to proximately above said tip, said shaft having a length in the range of 10 mm to 22 mm; and

a thread on said shaft having a pitch in the range of 1.25 mm to 2.5 mm with a sharp and thin profile, said thread having two faces angled relative to each other to form an apex having an angle in the range of 11 degrees to 21 degrees, said thread having a base that is in the range of 0.25 to 0.6 mm thick, said thread having an outer diameter that is generally constant along a substantial portion of the length of said shaft.

Please add the following new claims:

- 2-547. The plating system of claim 538, wherein said root diameter of said shaft is curved along at least a portion of the length of said shaft in a direction between said head and said tip along the mid-longitudinal axis of said shaft.
- 3-548. The plating system of claim 547, wherein said root diameter of said shaft is at least a portion of a concave curve.
- 4-549. The plating system of claim 538, wherein said root diameter increases along a portion of said shaft in a direction from said tip toward said head of said screw.
- 5-550. The plating system of claim 549, wherein the rate of increase of said root diameter is greater proximate said head of said screw.
- 6-551. The plating system of claim 538, wherein said second shaft portion has a generally circular cross section.
- 7-552. The plating system of claim 538, wherein said second shaft portion is generally conical.
- 8-553. The plating system of claim 538, wherein said first shaft portion has a generally circular cross section.
- 9-554. The plating system of claim 538, wherein said first shaft portion is generally cylindrical.
- 10-555. The plating system of claim 538, wherein said tip is at least one of pointed, tapered, and coned.
- 11-556. The plating system of claim 538, wherein said tip is configured to be self-tapping.
- 12-557. The plating system of claim 556, wherein said tip includes at least one of a pointed tip, cutting flutes, and decreased thread height.
- 13-558. The plating system of claim 538, wherein said tip includes cutting flutes that interrupt at least one turn of said thread proximate said tip.
- 14-559. The plating system of claim 538, wherein said outer diameter of said thread diminishes proximate said tip.
- 15-560. The plating system of claim 538, wherein said thread has a maximum outer diameter in the range of 3.6 mm to 5.2 mm.
- 16-561. The plating system of claim 538, wherein said thread pitch is in the range of 1.25 to 2.5 mm.

117 562. The plating system of claim ~~538~~, wherein said thread has opposed side faces being angled relative to each other to form an apex of said thread, said side faces forming an included angle in the range of 11 degrees to 30 degrees.

118 563. The plating system of claim ~~538~~, wherein said thread has opposed side faces, said side faces being angled relative to each other to form a base at said root diameter of said shaft and a crest opposite said base, said side faces having a thickness therebetween in the range of 0.25 mm to 0.60 mm at said base.

119 564. The plating system of claim ~~538~~, wherein said screw has an overall length in the range of 10 mm to 22 mm. ✓

120 565. The plating system of claim ~~538~~, wherein said head has a maximum root diameter no greater than the maximum root diameter of said shaft.

121 566. The plating system of claim ~~538~~, wherein said head has a top surface that is at least in part curved. ✓

122 567. The plating system of claim ~~538~~, wherein said head has a length parallel to the mid-longitudinal axis of said shaft in the range of 1 mm to 3 mm.

123 568. The plating system of claim ~~538~~, wherein said head has a diameter in the range of 3.8 mm to 6 mm.

124 569. The plating system of claim ~~538~~, wherein at least a portion of said plating system comprises at least in part of one of bone and bone growth promoting material.

125 570. The plating system of claim ~~569~~, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.

126 571. The plating system of claim ~~538~~, in combination with a bone growth promoting material.

127 572. The plating system of claim ~~571~~, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.

128 573. The plating system of claim ~~538~~, wherein at least a portion of said plating system is treated with a bone growth promoting substance.

129 574. The plating system of claim ~~538~~, wherein at least a portion of said plating system is at least in part resorbable.

30/ 575. The plating system of claim 538, wherein at least a portion of said plating system is formed of a porous material.

31/ 576. The plating system of claim 538, wherein at least a portion of said plating system is treated to promote bone ingrowth between said plate and the adjacent vertebral bodies.

33/ 577. The plating system of claim 539, wherein said root diameter of said shaft is curved along at least a portion of the length of said shaft in a direction between said head and said tip along the mid-longitudinal axis of said shaft.

34/ 578. The plating system of claim 577, wherein said root diameter of said shaft is at least a portion of a concave curve.

35/ 579. The plating system of claim 539, wherein said root diameter increases along a portion of said shaft in a direction from said tip toward said head of said screw.

36/ 580. The plating system of claim 579, wherein the rate of increase of said root diameter is greater proximate said head of said screw.

37/ 581. The plating system of claim 539, wherein said second shaft portion has a generally circular cross section.

38/ 582. The plating system of claim 539, wherein said second shaft portion is generally conical.

39/ 583. The plating system of claim 539, wherein said first shaft portion has a generally circular cross section.

40/ 584. The plating system of claim 539, wherein said first shaft portion is generally cylindrical.

41/ 585. The plating system of claim 539, wherein said tip is at least one of pointed, tapered, and coned.

42/ 586. The plating system of claim 539, wherein said tip is configured to be self-tapping.

43/ 587. The plating system of claim 586, wherein said tip includes at least one of a pointed tip, cutting flutes, and decreased thread height.

44/ 588. The plating system of claim 539, wherein said tip includes cutting flutes that interrupt at least one turn of said thread proximate said tip.

445 589. The plating system of claim 539, wherein said outer diameter of said thread diminishes proximate said tip. 32

446 590. The plating system of claim 539, wherein said thread has a maximum outer diameter in the range of 3.6 mm to 5.2 mm. 32

447 591. The plating system of claim 539, wherein said thread has a pitch in the range of 1.25 to 2.5 mm. 32

448 592. The plating system of claim 539, wherein said opposed side faces are angled relative to each other to form an apex of said thread, said side faces forming an included angle in the range of 11 degrees to 30 degrees. 32 ✓

449 593. The plating system of claim 539, wherein said opposed side faces are angled relative to each other to form a base at said root diameter of said shaft and said crest being opposite said base, said side faces having a thickness therebetween in the range of 0.25 mm to 0.60 mm at said base. 32

450 594. The plating system of claim 539, wherein said screw has an overall length in the range of 10 mm to 22 mm. 32

451 595. The plating system of claim 539, wherein said head has a maximum root diameter no greater than the maximum root diameter of said shaft. 32

452 596. The plating system of claim 539, wherein said head has a top surface that is at least in part curved. 32

453 597. The plating system of claim 539, wherein said head has a length parallel to the mid-longitudinal axis of said shaft in the range of 1 mm to 3 mm. 32

454 598. The plating system of claim 539, wherein said head has a diameter in the range of 3.8 mm to 6 mm. 32

455 599. The plating system of claim 539, wherein at least a portion of said plating system comprises at least in part of one of bone and bone growth promoting material. 32

456 600. The plating system of claim 539, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite. 32

457 601. The plating system of claim 539, in combination with a bone growth promoting material. 32

602. The plating system of claim 531, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.

603. The plating system of claim 539, wherein at least a portion of said plating system is treated with a bone growth promoting substance.

604. The plating system of claim 539, wherein at least a portion of said plating system is at least in part resorbable.

605. The plating system of claim 539, wherein at least a portion of said plating system is formed of a porous material.

606. The plating system of claim 539, wherein at least a portion of said plating system is treated to promote bone ingrowth between said plate and the adjacent vertebral bodies.

607. The plating system of claim 540, wherein said root diameter of said shaft is curved along at least a portion of the length of said shaft in a direction between said head and said tip along the mid-longitudinal axis of said shaft.

608. The plating system of claim 540, wherein said root diameter of said shaft is at least a portion of a concave curve.

609. The plating system of claim 540, wherein said root diameter increases along a portion of said shaft in a direction from said tip toward said head of said screw.

610. The plating system of claim 540, wherein the rate of increase of said root diameter is greater proximate said head of said screw.

611. The plating system of claim 540, wherein said second shaft portion has a generally circular cross section.

612. The plating system of claim 540, wherein said second shaft portion is generally conical.

613. The plating system of claim 540, wherein said first shaft portion has a generally circular cross section.

614. The plating system of claim 540, wherein said first shaft portion is generally cylindrical.

615. The plating system of claim 540, wherein said tip is at least one of pointed, tapered, and coned.

616. The plating system of claim 540, wherein said tip is configured to be self-tapping.

617. The plating system of claim 540, wherein said tip includes at least one of a pointed tip, cutting flutes, and decreased thread height.

618. The plating system of claim 540, wherein said tip includes cutting flutes that interrupt at least one turn of said thread proximate said tip.

619. The plating system of claim 540, wherein said outer diameter of said thread diminishes proximate said tip.

620. The plating system of claim 540, wherein said thread has a maximum outer diameter in the range of 3.6 mm to 5.2 mm.

621. The plating system of claim 540, wherein said thread pitch is in the range of 1.25 to 2.5 mm.

622. The plating system of claim 540, wherein said opposed side faces are angled relative to each other to form an apex of said thread, said side faces forming an included angle in the range of 11 degrees to 30 degrees.

623. The plating system of claim 540, wherein said opposed side faces are angled relative to each other to form a base at said root diameter of said shaft and said crest being opposite said base, said side faces having a thickness therebetween in the range of 0.25 mm to 0.60 mm at said base.

624. The plating system of claim 540, wherein said screw has an overall length in the range of 10 mm to 22 mm.

625. The plating system of claim 540, wherein said head has a maximum root diameter no greater than the maximum root diameter of said shaft.

626. The plating system of claim 540, wherein said head has a top surface that is at least in part curved.

627. The plating system of claim 540, wherein said head has a length parallel to the mid-longitudinal axis of said shaft in the range of 1 mm to 3 mm.

628. The plating system of claim 540, wherein said head has a diameter in the range of 3.8 mm to 6 mm.

629. The plating system of claim 540, wherein at least a portion of said plating system comprises at least in part of one of bone and bone growth promoting material.

887 630. The plating system of claim 629, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.

888 631. The plating system of claim 540, in combination with a bone growth promoting material.

889 632. The plating system of claim 531, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.

910 633. The plating system of claim 540, wherein at least a portion of said plating system is treated with a bone growth promoting substance.

911 634. The plating system of claim 540, wherein at least a portion of said plating system is at least in part resorbable.

912 635. The plating system of claim 540, wherein at least a portion of said plating system is formed of a porous material.

913 636. The plating system of claim 540, wherein at least a portion of said plating system is treated to promote bone ingrowth between said plate and the adjacent vertebral bodies.

914 637. The plating system of claim 541, wherein said root diameter of said shaft is at least a portion of a concave curve.

915 638. The plating system of claim 541, wherein said root diameter increases along a portion of said shaft in a direction from said tip toward said head of said screw.

916 639. The plating system of claim 638, wherein the rate of increase of said root diameter is greater proximate said head of said screw.

917 640. The plating system of claim 541, wherein said second shaft portion has a generally circular cross section.

918 641. The plating system of claim 541, wherein said second shaft portion is generally conical.

1000 642. The plating system of claim 541, wherein said first shaft portion has a generally circular cross section.

1001 643. The plating system of claim 541, wherein said first shaft portion is generally cylindrical.

102/ 644. The plating system of claim 541, wherein said tip is at least one of pointed, tapered, and coned.

103/ 645. The plating system of claim 541, wherein said tip is configured to be self-tapping.

104/ 646. The plating system of claim 541, wherein said tip includes at least one of a pointed tip, cutting flutes, and decreased thread height.

105/ 647. The plating system of claim 541, wherein said tip includes cutting flutes that interrupt at least one turn of said thread proximate said tip.

106/ 648. The plating system of claim 541, wherein said outer diameter of said thread diminishes proximate said tip.

107/ 649. The plating system of claim 541, wherein said thread has a maximum outer diameter in the range of 3.6 mm to 5.2 mm.

108/ 650. The plating system of claim 541, wherein said thread has a pitch in the range of 1.25 to 2.5 mm.

109/ 651. The plating system of claim 541, wherein said thread has opposed side faces being angled relative to each other to form an apex of said thread, said side faces forming an included angle in the range of 11 degrees to 30 degrees.

110/ 652. The plating system of claim 541, wherein said thread has opposed side faces, said side faces being angled relative to each other to form a base at said root diameter of said shaft and a crest opposite said base, said side faces having a thickness therebetween in the range of 0.25 mm to 0.60 mm at said base.

111/ 653. The plating system of claim 541, wherein said screw has an overall length in the range of 10 mm to 22 mm.

112/ 654. The plating system of claim 541, wherein said head has a maximum root diameter no greater than the maximum root diameter of said shaft.

113/ 655. The plating system of claim 541, wherein said head has a top surface that is at least in part curved.

114/ 656. The plating system of claim 541, wherein said head has a length parallel to the mid-longitudinal axis of said shaft in the range of 1 mm to 3 mm.

115/ 657. The plating system of claim 541, wherein said head has a diameter in the range of 3.8 mm to 6 mm.

1168 658. The plating system of claim 541, wherein at least a portion of said plating system comprises at least in part one of bone and bone growth promoting material.

1179 659. The plating system of claim 658, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.

1185 660. The plating system of claim 541, in combination with a bone growth promoting material.

1192 661. The plating system of claim 660, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.

1200 662. The plating system of claim 541, wherein at least a portion of said plating system is treated with a bone growth promoting substance.

1201 663. The plating system of claim 541, wherein at least a portion of said plating system is at least in part resorbable.

1205 664. The plating system of claim 541, wherein at least a portion of said plating system is formed of a porous material.

1205 665. The plating system of claim 541, wherein at least a portion of said plating system is treated to promote bone ingrowth between said plate and the adjacent vertebral bodies.

1250 666. The plating system of claim 543, wherein said root diameter of said shaft is curved along at least a portion of the length of said shaft in a direction between said leading end and said trailing end along the mid-longitudinal axis of said shaft.

1260 667. The plating system of claim 666, wherein said root diameter of said shaft is at least a portion of a concave curve.

1267 668. The plating system of claim 543, wherein said root diameter increases along a portion of said shaft in a direction from said leading end toward said trailing end..

1268 669. The plating system of claim 668, wherein the rate of increase of said root diameter is greater proximate said trailing end.

1269 670. The plating system of claim 543, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said second shaft portion having a generally circular cross section.

- 1330 671. The plating system of claim 543, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said second shaft portion being generally conical.
- 1331 672. The plating system of claim 543, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said first shaft portion having a generally circular cross section.
- 1332 673. The plating system of claim 543, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said first shaft portion being generally cylindrical.
- 1333 674. The plating system of claim 543, wherein said leading end includes a tip that is at least one of pointed, tapered, and coned.
- 1334 675. The plating system of claim 543, wherein said leading end includes a tip that is configured to be self-tapping.
- 1335 676. The plating system of claim 575, wherein said tip includes at least one of a pointed tip, cutting flutes, and decreased thread height.
- 1336 677. The plating system of claim 543, wherein said leading end of said screw has a tip with cutting flutes that interrupt at least one turn of said thread proximate said tip.
- 1337 678. The plating system of claim 543, wherein said thread has an outer diameter that diminishes proximate said leading end.
- 1338 679. The plating system of claim 543, wherein said thread has a maximum outer diameter in the range of 3.6 mm to 5.2 mm.
- 1339 680. The plating system of claim 543, wherein said thread has a pitch in the range of .25 to 2.5 mm.
- 1340 681. The plating system of claim 543, wherein said opposed side faces are angled relative to each other to form a base at said root diameter of said shaft and a crest opposite said base, said side faces having a thickness therebetween in the range of 0.25 mm to 0.60 mm at said base.
- 1341 682. The plating system of claim 543, wherein said screw has an overall length in the range of 10 mm to 22 mm.

98

C

- 1412/ 683. The plating system of claim 543, further comprising a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate.
- 1413/ 684. The plating system of claim 683, wherein said head has a maximum root diameter no greater than the maximum root diameter of said shaft.
- 1414/ 685. The plating system of claim 683, wherein said head has a top surface that is at least in part curved.
- 1415/ 686. The plating system of claim 683, wherein said head has a length parallel to the mid-longitudinal axis of said shaft in the range of 1 mm to 3 mm.
- 1416/ 687. The plating system of claim 683, wherein said head has a diameter in the range of 3.8 mm to 6 mm.
- 1417/ 688. The plating system of claim 543, wherein at least a portion of said plating system comprises at least in part of one of bone and bone growth promoting material.
- 1418/ 689. The plating system of claim 688, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.
- 1419/ 690. The plating system of claim 543, in combination with a bone growth promoting material.
- 1500/ 691. The plating system of claim 690, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.
- 1511/ 692. The plating system of claim 543, wherein at least a portion of said plating system is treated with a bone growth promoting substance.
- 1512/ 693. The plating system of claim 543, wherein at least a portion of said plating system is at least in part resorbable.
- 1513/ 694. The plating system of claim 543, wherein at least a portion of said plating system is formed of a porous material.
- 1514/ 695. The plating system of claim 543, wherein at least a portion of said plating system is treated to promote bone ingrowth between said plate and the adjacent vertebral bodies.

1556/ 696. The plating system of claim 544, wherein said root diameter of said shaft is curved along at least a portion of the length of said shaft in a direction between said leading end and said trailing end along the mid-longitudinal axis of said shaft.

1557/ 697. The plating system of claim 696, wherein said root diameter of said shaft is at least a portion of a concave curve.

1558/ 698. The plating system of claim 544, wherein said root diameter increases along a portion of said shaft in a direction from said leading end toward said trailing end.

1559/ 699. The plating system of claim 698, wherein the rate of increase of said root diameter is greater proximate said trailing end.

1600/ 700. The plating system of claim 544, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said second shaft portion having a generally circular cross section.

1601/ 701. The plating system of claim 544, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said second shaft portion being generally conical.

1602/ 702. The plating system of claim 544, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said first shaft portion having a generally circular cross section.

1603/ 703. The plating system of claim 544, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said first shaft portion being generally cylindrical.

1604/ 704. The plating system of claim 544, wherein said leading end includes a tip that is at least one of pointed, tapered, and coned.

1605/ 705. The plating system of claim 544, wherein said leading end includes a tip that is configured to be self-tapping.

1606/ 706. The plating system of claim 705, wherein said tip includes least one of a pointed tip, cutting flutes, and decreased thread height.

1607/ 707. The plating system of claim 544, wherein said leading end of said screw has a tip with cutting flutes that interrupt at least one turn of said thread proximate said tip.

- 1428/ 708. The plating system of claim 544, wherein said thread has an outer diameter that diminishes proximate said leading end.
- 1689/ 709. The plating system of claim 544, wherein said thread has a maximum outer diameter in the range of 3.6 mm to 5.2 mm.
- 1710/ 710. The plating system of claim 544, wherein said thread has a pitch in the range of 1.25 to 2.5 mm.
- 1711/ 711. The plating system of claim 544, wherein said opposed side faces are angled relative to each other to form an apex of said thread, said side faces forming an included angle in the range of 11 degrees to 30 degrees.
- 1712/ 712. The plating system of claim 544, wherein said screw has an overall length in the range of 10 mm to 22 mm.
- 1713/ 713. The plating system of claim 544, further comprising a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate.
- 1714/ 714. The plating system of claim 713, wherein said head has a maximum root diameter no greater than the maximum root diameter of said shaft.
- 1715/ 715. The plating system of claim 713, wherein said head has a top surface that is at least in part curved.
- 1716/ 716. The plating system of claim 713, wherein said head has a length parallel to the mid-longitudinal axis of said shaft in the range of 1 mm to 3 mm.
- 1717/ 717. The plating system of claim 713, wherein said head has a diameter in the range of 3.8 mm to 6 mm.
- 1718/ 718. The plating system of claim 544, wherein at least a portion of said plating system comprises at least in part of one of bone and bone growth promoting material.
- 1719/ 719. The plating system of claim 718, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.
- 1720/ 720. The plating system of claim 544, in combination with a bone growth promoting material.

1161 121. The plating system of claim 720, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.

1162 122. The plating system of claim 544, wherein at least a portion of said plating system is treated with a bone growth promoting substance.

1163 123. The plating system of claim 544, wherein at least a portion of said plating system is at least in part resorbable.

1164 124. The plating system of claim 544, wherein at least a portion of said plating system is formed of a porous material.

1165 125. The plating system of claim 544, wherein at least a portion of said plating system is treated to promote bone ingrowth between said plate and the adjacent vertebral bodies.

1166 126. The plating system of claim 545, wherein said root diameter of said shaft is curved along at least a portion of the length of said shaft in a direction between said leading end and said trailing end along the mid-longitudinal axis of said shaft.

1167 127. The plating system of claim 545, wherein said root diameter of said shaft is at least a portion of a concave curve.

1168 128. The plating system of claim 545, wherein the rate of increase of said root diameter is greater proximate said trailing end of said screw.

1169 129. The plating system of claim 545, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said second shaft portion having a generally circular cross section.

1170 130. The plating system of claim 545, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said second shaft portion being generally conical.

1171 131. The plating system of claim 545, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said first shaft portion having a generally circular cross section.

1172 132. The plating system of claim 545, wherein said shaft has a first shaft portion proximate said leading end and a second shaft portion proximate said trailing end, said first shaft portion being generally cylindrical.

187
187
733. The plating system of claim 545, wherein said leading end of said screw includes a tip that is at least one of pointed, tapered, and coned.

187
187
734. The plating system of claim 545, wherein said leading end of said screw includes a tip that is configured to be self-tapping.

187
187
735. The plating system of claim 545, wherein said tip includes at least one of a pointed tip, cutting flutes, and decreased thread height.

187
187
736. The plating system of claim 545, wherein said leading end of said screw has a tip with cutting flutes that interrupt at least one turn of said thread proximate said tip.

187
187
737. The plating system of claim 545, wherein said outer diameter of said thread diminishes proximate said leading end.

187
187
738. The plating system of claim 545, wherein said thread has a maximum outer diameter in the range of 3.6 mm to 5.2 mm.

187
187
739. The plating system of claim 545, wherein said thread has a pitch in the range of 1.25 to 2.5 mm.

187
187
740. The plating system of claim 545, wherein said screw has an overall length in the range of 10 mm to 22 mm.

187
187
741. The plating system of claim 545, further comprising a head adapted to block further forward motion of said screw through said bone screw receiving hole of said

plate.
202
202
742. The plating system of claim 741, wherein said head has a maximum root diameter no greater than the maximum root diameter of said shaft.

202
202
743. The plating system of claim 741, wherein said head has a top surface that is at least in part curved.

202
202
744. The plating system of claim 741, wherein said head has a length parallel to the mid-longitudinal axis of said screw in the range of 1 mm to 3 mm.

202
202
745. The plating system of claim 741, wherein said head has a diameter in the range of 3.8 mm to 6 mm.

202
202
746. The plating system of claim 545, wherein at least a portion of said plating system comprises at least in part of one of bone and bone growth promoting material.

268/ 747. The plating system of claim 746, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.

269/ 748. The plating system of claim 545, in combination with a bone growth promoting material.

270/ 749. The plating system of claim 748, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite.

271/ 750. The plating system of claim 545, wherein at least a portion of said plating system is treated with a bone growth promoting substance.

272/ 751. The plating system of claim 545, wherein at least a portion of said plating system is at least in part resorbable.

273/ 752. The plating system of claim 545, wherein at least a portion of said plating system is formed of a porous material.

274/ 753. The plating system of claim 545, wherein at least a portion of said plating system is treated to promote bone ingrowth between said plate and the adjacent vertebral bodies.

275/ 754. The plating system of claim 546, wherein said root diameter of said shaft is curved along at least a portion of the length of said shaft in a direction between said head and said tip along the longitudinal axis of said shaft.

276/ 755. The plating system of claim 754, wherein said root diameter of said shaft is at least a portion of a concave curve.

277/ 756. The plating system of claim 546, wherein said root diameter increases along a portion of said shaft in a direction from said tip toward said head of said screw.

278/ 757. The plating system of claim 756, wherein the rate of increase of said root diameter is greater proximate said head of said screw.

279/ 758. The plating system of claim 546, wherein said shaft has a first shaft portion proximate said tip and a second shaft portion proximate said head, said second shaft portion having a generally circular cross section.

2221/ 759. The plating system of claim 546, wherein said shaft has a first shaft portion proximate said tip and a second shaft portion proximate said head, said second shaft portion being generally conical. 215

2222/ 760. The plating system of claim 546, wherein said shaft has a first shaft portion proximate said tip and a second shaft portion proximate said head, said first shaft portion having a generally circular cross section. 215

2223/ 761. The plating system of claim 546, wherein said shaft has a first shaft portion proximate said tip and a second shaft portion proximate said head, said first shaft portion being generally cylindrical. 215

2224/ 762. The plating system of claim 546, wherein said tip is at least one of pointed, tapered, and coned. 215

2225/ 763. The plating system of claim 546, wherein said tip is configured to be self-tapping. 215

2226/ 764. The plating system of claim 763, wherein said tip includes at least one of a pointed tip, cutting flutes, and decreased thread height. 215

2227/ 765. The plating system of claim 546, wherein said tip includes cutting flutes that interrupt at least one turn of said thread proximate said tip. 215

2228/ 766. The plating system of claim 546, wherein said outer diameter of said thread diminishes proximate said tip. 215

2229/ 767. The plating system of claim 546, wherein said thread has a maximum outer diameter in the range of 3.6 mm to 5.2 mm. 215

2230/ 768. The plating system of claim 546, wherein said head has a maximum root diameter no greater than the maximum root diameter of said shaft. 215

2321/ 769. The plating system of claim 546, wherein said head has a top surface that is at least in part curved. 215

2322/ 770. The plating system of claim 546, wherein at least a portion of said plating system comprises at least in part of one of bone and bone growth promoting material. 215

2323/ 771. The plating system of claim 770, wherein said bone growth promoting material is selected from one of bone, bone derived products, bone morphogenetic protein, and hydroxyapatite. 215

2324/ 772. The plating system of claim 546, in combination with a bone growth promoting material. 215